

CLAIMS

What is claimed is:

1. A transport system for articles, in particular containers for baggage pieces, comprising:
 - at least two conveyors disposed in vertically spaced-apart planes to define an upper conveyor and a lower conveyor;
 - an elevator having an elevator conveyor and movable in a vertical direction between a lower end position in which the elevator conveyor is in alignment with the lower conveyor to form a lower transport path for transfer of articles from the lower conveyor to the elevator, and an upper end position in which the elevator conveyor is in alignment with the upper conveyor to form an upper transport path for transfer of articles from the upper conveyor to the elevator; and
 - a control unit to control the transfer of the articles from the conveyors to the elevator and from the elevator to the conveyors in dependence on a vertical position of the elevator, said control unit including a signaling assembly having a first signaling member associated to one of the planes for indicating that the elevator has reached an upper trigger position in relation to the one plane during movement from the lower end position to the upper end position, and a second signaling member associated to the other one of the planes for indicating that the elevator has reached a lower trigger position in relation to the other plane during movement from the upper end position to the lower end position.

2. The transport system of claim 1, wherein each of the two conveyors and the conveyor of the elevator includes an endless conveyor belt, and a drive motor for operating the conveyor belt.
3. The transport system of claim 1, wherein the first and second signaling members are configured as sensors.
4. The transport system of claim 1, wherein each of the sensors is constructed as a member selected from the group consisting of light barrier, light scanner, inductive sensor, mechanical sensor, and ultrasonic sensor.
5. The transport system of claim 1, wherein the control unit initiates movement of the articles, when the elevator reaches the upper and lower trigger positions.
6. The transport system of claim 5, wherein the upper conveyor is rendered operative by the control unit for moving the articles, when the elevator reaches the upper trigger position, and wherein the lower conveyor is rendered operative by the control unit for moving the articles, when the elevator reaches the lower trigger position.

7. The transport system of claim 5, wherein the control unit is constructed to initiate the movement of the articles after elapse of a predetermined delay time.
8. The transport system of claim 7, wherein the control unit is so constructed that the delay time is dependent on a start-up speed of the elevator.
9. A method of transporting articles, in particular containers for baggage pieces, comprising the steps of:

providing an elevator with an elevator conveyor for movement between a lower conveyor and an upper conveyor which are spaced-apart in a vertical direction to thereby define a lower end position in which the elevator conveyor is in alignment with the lower conveyor to form a lower transport path for transfer of articles from the lower conveyor to the elevator, and an upper end position in which the elevator conveyor is in alignment with the upper conveyor to form an upper transport path for transfer of articles from the upper conveyor to the elevator; and

controlling the transfer of the articles from the conveyors to the elevator and from the elevator to the conveyors in dependence on a vertical position of the elevator in response to an indication that the elevator has reached an upper trigger position in relation to the one plane during movement from the lower end position to the upper end position, and in response to an indication that the elevator has reached a lower trigger position in relation to

the other plane during movement from the upper end position to the lower end position.

10. A method of transporting articles, in particular containers for baggage pieces, comprising the steps of:

providing an elevator which has an elevator conveyor and is movable between a lower conveyor and an upper conveyor which are spaced-apart in a vertical direction to thereby define a lower end position in which the elevator conveyor is in alignment with the lower conveyor to form a lower transport path for transfer of articles from the lower conveyor to the elevator, and an upper end position in which the elevator conveyor is in alignment with the upper conveyor to form an upper transport path for transfer of articles from the upper conveyor to the elevator; and

controlling the transfer of the articles from the conveyors to the elevator and from the elevator to the conveyors in dependence on a vertical position of the elevator starting operation of the elevator conveyor, when the elevator reaches an upper trigger position during movement from the lower end position to the upper end position, and by starting operation of the elevator conveyor, when the elevator reaches a lower trigger position during movement from the upper end position to the lower end position.

11. A transport system for articles, in particular containers for baggage pieces, comprising:
 - at least two conveyors disposed in vertically spaced-apart planes to define an upper conveyor and a lower conveyor;
 - an elevator having an elevator conveyor and movable between a lower end position in which the elevator conveyor is in alignment with the lower conveyor for transfer of articles from the lower conveyor to the elevator, and an upper end position in which the elevator conveyor is in alignment with the upper conveyor for transfer of articles from the upper conveyor to the elevator;
 - a control unit to control operation of the elevator; and
 - a signaling assembly instructing the control unit to operate the elevator conveyor, when the elevator passes during ascent a first predetermined trigger position in advance of the upper end position, and instructing the control unit to operate the elevator conveyor, when the elevator passes during descent a second predetermined trigger position in advance of the lower end position.
12. The transport system of claim 11, wherein the control unit initiates operation of the upper conveyor, when the elevator passes the first trigger position, and initiates operation of the lower conveyor, when the elevator passes the second trigger position.

13. The transport system of claim 11, wherein the signaling assembly includes a first signaling member disposed in vicinity of the upper end position to define the first trigger position, and a second signaling member disposed in vicinity of the lower end position to define the second trigger position.